

*I fu  
Receipt*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of: **Jun TAKADA et al.**

Group Art Unit: **3725**

Serial Number: **10/509,158**

Filed: **June 24, 2005**

Confirmation No.: **5031**

For: **WORKED MOLYBDENUM-ALLOY MATERIAL HAVING HIGH  
STRENGTH AND TOUGHNESS AND METHOD FOR  
MANUFACTURING WORKED MOLYBDENUM-ALLOY  
MATERIAL**

Attorney Docket Number: **042721**  
Customer Number: **38834**

**REQUEST FOR CORRECTED FILING RECEIPT**

**Mail Stop: Missing Parts**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

November 14, 2005

Sir:

Please supply the undersigned attorney with a corrected filing receipt for the above-identified application. The undersigned also respectfully requests that the Patent and Trademark Office records be amended to reflect the correction.

In reviewing the Official Filing Receipt, we noted the Assignees' Information was not recorded, and we noted the Third Inventor's Name and the Title were incorrect. The Assignees' Information should read --JAPAN SCIENCE AND TECHNOLOGY AGENCY, Kawaguchi-shi, JAPAN; NATIONAL UNIVERSITY CORPORATION OKAYAMA UNIVERSITY, Okayama-shi, JAPAN; A. L. M. T. CORP., Tokyo, JAPAN--. The Third Inventor's Name should read --Makoto NAKANISHI--. The Title should read --HIGH STRENGH HIGH TOUGHNESS Mo ALLOY WORKED MATERIAL AND METHOD FOR

Request for Corrected Filing Receipt

10/509,158

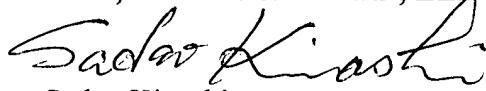
042721

**PRODUCTION THEREOF--.** A copy of the **Assignment, Declaration** and the **PCT Publication** are enclosed which indicate the correct information. We are also enclosing a copy of the filing receipt with the corrections highlighted.

If any fees are required in connection with this paper, please charge Deposit Account No. 50-2866.

Respectfully submitted,

**WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP**



Sadao Kinashi

Attorney for Applicants  
Registration No. 48,075  
Telephone: (202) 822-1100  
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SK/if

Enclosures: Official Filing Receipt; Assignment; PCT Publication; Declaration



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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/509,158	06/24/2005	3725	1340	042721	2	5	1

38834  
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

CONFIRMATION NO. 5031

FILING RECEIPT



\*OC000000017359469\*

Date Mailed: 11/01/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

Jun Takada, Okayama, JAPAN;  
Masahiro Nagae, Okayama, JAPAN;  
Makoto Narishi, Okayama, JAPAN;  
Tomohiro Takida, Toyama, JAPAN;  
Tetsushi Hoshika, Okayama, JAPAN;

JAPAN SCIENCE AND TECHNOLOGY AGENCY, Kawaguchi-shi, JAPAN;  
NAKANISHI, NATIONAL UNIVERSITY CORPORATION OKAYAMA UNIVERSITY, Okayama-shi, JAPAN;  
A.L.M.T. CORP., Tokyo, JAPAN

**Assignment for Published Patent Application**

*Please Insert*

**Power of Attorney:** The patent practitioners associated with Customer Number 38834.

**Domestic Priority data as claimed by applicant**

This application is a 371 of PCT/JP03/03913 03/27/2003

**Foreign Applications**

JAPAN 2002-98015 03/29/2002

**Projected Publication Date:** 02/09/2006

**Non-Publication Request:** No

**Early Publication Request:** No

**Title**

High strength high toughness metal alloy worked material and method for production thereof

**Preliminary Class**

470

## PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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(19) 世界知的所有権機関  
国際事務局(43) 国際公開日  
2003年10月9日 (09.10.2003)

PCT

(10) 国際公開番号  
WO 03/083158 A1

(51) 国際特許分類7: C23C 8/24, C22C 27/04

(21) 国際出願番号: PCT/JP03/03913

(22) 国際出願日: 2003年3月27日 (27.03.2003)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:  
特願2002-98015 2002年3月29日 (29.03.2002) JP(71) 出願人(米国を除く全ての指定国について): 科学  
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〒110-0014 東京都台東区北上野二丁目23番5号 Tokyo  
(JP).

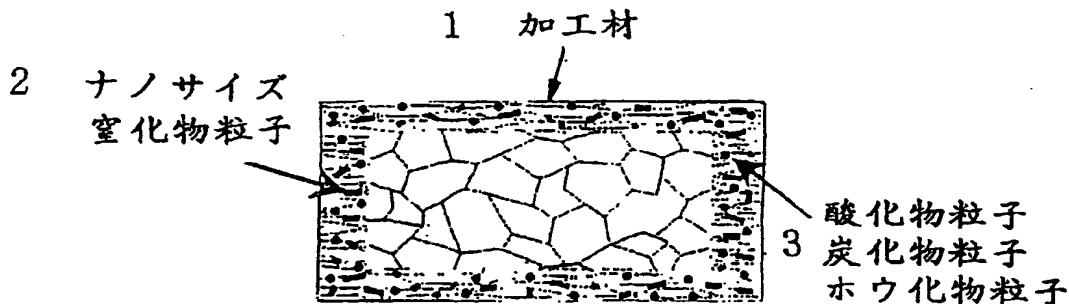
(72) 発明者; および

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700-0011 岡山県岡山市学南町3-3-30 山田コープ  
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[JP/JP]; 〒930-2243 富山県富山市四方荒屋1514-6

/統葉有/

(54) Title: HIGH STRENGTH HIGH TOUGHNESS Mo ALLOY WORKED MATERIAL AND METHOD FOR PRODUCTION  
THEREOF

(54) 発明の名称: 高強度・高韌性Mo合金加工材とその製造方法



1...WORKED MATERIAL

2...NANO SIZE NITRIDE PARTICLES

3...OXIDE PARTICLES, CARBIDE PARTICLES, BORIDE PARTICLES

WO 03/083158 A1

(57) Abstract: A high strength and high toughness Mo alloy worked material, characterized in that it is produced through subjecting a Mo alloy worked material comprising an Mo base phase and, incorporated in the form of a solid solution with the Mo phase, a metal element capable of forming a nitride and, precipitated and dispersed in the Mo phase, at least one of carbide particles, oxide particles and boride particles to an internal nitriding, and fine nitride particles are also dispersed in addition to the at least one of carbide particles, oxide particles and boride particles; and a method for producing the above novel material which comprises subjecting an alloy worked material comprising an Mo base phase and, precipitated and dispersed therein, at least one of carbide particles, oxide particles and boride particles and, incorporated in the form of a solid solution with the Mo phase, at least one of Ti, Zr, Hf, V, Nb and Ta to a multi-step internal nitriding wherein the treatment temperature is stepwise elevated. The high strength and high toughness Mo alloy worked material can be used at a temperature higher than the temperature at which conventional TZ alloy is used.

(57) 要約: 本発明は、少なくとも従来のTZM合金よりも高温で使用できるMo合金加工材とその製造方法を提供する。Mo母相に窒化物形成金属元素を固溶し、かつ炭化物粒子、酸化物粒子、ホウ化物粒

/統葉有/

**U.S. ASSIGNMENT**

(Insert ASSIGNEE's Name(s) Address(es))

IN CONSIDERATION of the sum of One Dollar (\$1.00), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) by

**JAPAN SCIENCE AND TECHNOLOGY AGENCY**

1-8, Honcho 4-chome, Kawaguchi-shi, Saitama 332-0012 JAPAN

**NATIONAL UNIVERSITY CORPORATION OKAYAMA UNIVERSITY**

1-1, Tsushima-naka 1-chome, Okayama-shi, Okayama 700-8530 JAPAN

**A.L.M.T. CORP.**

23-5, Kita-Ueno 2-chome, Taitou-ku, Tokyo 110-0014 JAPAN

(hereinafter ASSIGNEE), the receipt of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled

(Title of Invention)

**WORKED MOLYBDENUM-ALLOY MATERIAL HAVING HIGH STRENGTH AND HIGH TOUGHNESS AND METHOD FOR MANUFACTURING WORKED MOLYBDENUM-ALLOY MATERIAL**

for which application for Letters Patent of the United States was executed on even date herewith unless otherwise indicated below:

\* filed on \_\_\_\_\_ Serial No. \_\_\_\_\_

(\*If the assignment is being filed after the filing of the application, this section must be completed)

(Westerman, Hattori, Daniels &amp; Adrian, LLP is hereby authorized to insert the series code, serial number and/or filing date hereon, when known)

and all Letters Patent of the United States to be obtained therefore on said application or any continuation, divisional, substitute, reissue or reexamination thereof for the full term or terms for which the same may be granted.

The ASSIGNOR agrees to execute all papers necessary in connection with the application and any continuation, divisional, reissue or reexamination applications thereof and also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, divisional, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.

(Signatures)

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

<u>Jun Takada</u> (Signature)	Jun TAKADA (Type Name)	Oct. 26, 2004 (Date)
<u>Masahiro Nagae</u> (Signature)	Masahiro NAGAE (Type Name)	Oct. 28. 2004 (Date)
<u>Makoto Nakanishi</u> (Signature)	Makoto NAKANISHI (Type Name)	Oct. 26, 2004 (Date)
<u>Tomohiro Takida</u> (Signature)	Tomohiro TAKIDA (Type Name)	Nov. 2. 2004 (Date)
<u>Tetsushi Hoshika</u> (Signature)	Tetsushi HOSHIKA (Type Name)	Nov. 8. 2004 (Date)
_____ (Signature)	_____ (Type Name)	_____ (Date)

NO LEGALIZATION REQUIRED

# DECLARATION FOR U.S. PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

## WORKED MOLYBDENUM-ALLOY MATERIAL HAVING HIGH STRENGTH AND HIGH TOUGHNESS AND METHOD FOR MANUFACTURING WORKED MOLYBDENUM-ALLOY MATERIAL

the specification of which is attached hereto unless the following is checked

was filed on 28 September 2004 as United States Application Number \_\_\_\_\_ and was filed on 27 March 2003 as PCT International Application Number PCT/JP03/03913 and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 (a) – (d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application for which priority is claimed.

(List prior foreign applications. See note A)

			Priority Claimed
(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
2002-98015	Japan	29/March/2002	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Number)	(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No

(See note B)  See attached list for additional prior foreign applications

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(List prior U.S. Applications)

			Status
(Application Serial No.)	(Filing Date)	<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned	
(Application Serial No.)	(Filing Date)	<input type="checkbox"/> Patented	<input type="checkbox"/> Pending <input type="checkbox"/> Abandoned
(Application Serial No.)	(Filing Date)	<input type="checkbox"/> Patented	<input type="checkbox"/> Pending <input type="checkbox"/> Abandoned
(Application Serial No.)	(Filing Date)	<input type="checkbox"/> Patented	<input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

## Customer Number: 38834

Please direct all communications to the following address:

Westerman, Hattori, Daniels & Adrian, LLP  
1250 Connecticut Avenue, N.W., Suite 700, Washington, D.C. 20036

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 of the United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(See note C)	Full name of sole or first inventor (given name, family name)	Jun TAKADA	
Inventor's signature	<u>Jun TAKADA</u>	Date	<u>Oct. 26, 2004</u>
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Full name of second inventor (given name, family name)	Masahiro NAGAE		
Inventor's signature	<u>Masahiro Nagae</u>	Date	<u>Oct. 28, 2004</u>
Residence	<u>Okayama, JAPAN</u>	Citizenship	<u>JAPAN</u>
Post Office Address	<u>12-21, Tama 2-chome, Tamano-shi, Okayama 706-0012 Japan</u>		
Full name of third inventor (given name, family name)	Makoto NAKANISHI		
Inventor's signature	<u>Makoto Nakanishi</u>	Date	<u>Oct. 26, 2004</u>
Residence	<u>Okayama, JAPAN</u>	Citizenship	<u>JAPAN</u>
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Full name of fourth inventor (given name, family name)	Tomohiro TAKIDA		
Inventor's signature	<u>Tomohiro Takida</u>	Date	<u>Nov. 2, 2004</u>
Residence	<u>Toyama, JAPAN</u>	Citizenship	<u>JAPAN</u>
Post Office Address	<u>1514-6, Yomo-Araya, Toyama-shi, Toyama 930-2243 Japan</u>		
Full name of fifth inventor (given name, family name)	Tetsushi HOSHIKA		
Inventor's signature	<u>Tetsushi Hoshika</u>	Date	<u>Nov. 8, 2004</u>
Residence	<u>Okayama, JAPAN</u>	Citizenship	<u>JAPAN</u>
Post Office Address	<u>Room 103, Forum-Ishima 1-bankann, 14-25, Ishima 2-chome, Okayama-shi, Okayama 700-0016 Japan</u>		
Full name of sixth inventor (given name, family name)			
Inventor's signature			
Residence			
Post Office Address			